

REMARKS/ARGUMENTS

This Amendment is submitted to accompany a Request for Continued Examination (RCE) dated August 31, 2007. The RCE and the present Amendment are filed within the three month period extending from the mailing date of the Final Office

5 Action to September 4, 2007. Therefore, no extension of time fee is due.

Claims 23 and 31 are currently amended.

Claims 53 and 54 are new.

Claims 1-22, 24, 34, and 42-52 are cancelled.

Claims 23, 25-33, 35-41, and 53-54 are pending in the application after entry of

10 this Amendment.

Rejections Under 35 U.S.C. 103

Claims 23, 25-28, 31-33, and 35-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sandaiji et al. ("Sandaiji" hereafter) (U.S. Patent No. 4,982,065) in view of Kelly et al. ("Kelly" hereafter) (U.S. Patent No. 6,524,663). These rejections are traversed.

The Office is requested to note that each of independent claims 23 and 31 has been amended to recite a radiant energy source that is designed to generate radiant energy having a wavelength range that will be selectively absorbed by atoms, molecules, or both atoms and molecules of a first material present at a surface of the wafer upon which the radiant energy is incident, without being substantially absorbed by a second material present at the surface of the wafer near the first material. Each of independent claims 23 and 31 has also been amended to recite that the selective absorption of the radiant energy by the first material will cause a selective heating and increased temperature of the first material. Additionally, each of independent claims 23 and 31 recites that the lack of substantial absorption of the radiant energy by the second material will avoid a substantial

heating and increased temperature of the second material. Each of independent claims 23 and 31 also recites that the radiant energy source is defined to sufficiently heat the first material in exposure to the electroless plating solution so as to cause an electroless plating reaction to selectively occur on the first material without occurring on the second material.

Sandaiji's teachings with regard to the wavelength design of the laser source is limited to that disclosed at column 7, lines 58-65. Specifically, Sandaiji states the following:

"As a laser source, various lasers can be employed. However, in view of the high absorption in a wavelength of 1 micron or less of ferrite and Sendust, preferably used is a laser source, such as a second harmonics of YAG laser or Ar ion laser, or the like, which has an excellent oscillation stability and a small diverging angle of laser light."

Sandaiji does not teach that the laser source is designed to generate laser light capable of selectively heating a first material present on the surface of the gapped bar without causing a second material near the first material to be substantially heated by the laser light. Rather, Sandaiji is concerned with heating the gapped bar at the point of incidence of the laser light without regard to the particular material present on the gapped bar at the point of incidence of the laser light. Sandaiji does not teach or suggest that the laser source is defined to be absorbed by atoms and/or molecules of a first material on the gapped bar without being absorbed by atoms and/or molecules of a second material on the gapped bar. For example, Sandaiji (column 5, lines 60-64) teaches that the gapped bar is made of a single material, e.g., ferrite, Sendust, or the like. Thus, the above-identified teachings of Sandaiji with regard to the wavelength of the laser light indicates that Sandaiji is concerned with optimal absorption of the laser light by the gapped bar without

discrimination based on the particular material present on the gapped bar surface at the point of incidence of the laser light. Consequently, Sandaiji does not teach a radiant energy source designed to generate radiant energy having a wavelength range that will be selectively absorbed by atoms and/or molecules of a first material present at a surface of a

5 wafer upon which the radiant energy is incident without being substantially absorbed by a second material present at the surface of the wafer near the first material, as recited in each of claims 23 and 31.

Further, in applying the combination of Sandaiji and Kelly to reject independent claims 23 and 31, the Office has made the following statements with regard to Kelly:

10 "Kelly et al. teaches radiant energy source is designed to generate radiant energy having a wavelength range (see col. 4, lines 44-67, col. 5, lines 1-60)."

While the Office has asserted that Kelly teaches a radiant energy source designed to generate radiant energy having a wavelength range, the Office has not indicated how Kelly teaches a radiant energy source designed to generate radiant energy having a 15 wavelength range that will be selectively absorbed by atoms and/or molecules of a first material present at a surface of the wafer upon which the radiant energy is incident without being substantially absorbed by a second material present at the surface of the wafer near the first material, as recited in each of claims 23 and 31.

Kelly (column 6, lines 18-21) teaches that exposure of a surface activation 20 compound to ultraviolet radiation weakens the metal-carbon bond which allows subsequent cleaving or decomposition of the compound to the underlying metal. Kelly (column 5, lines 33-37) teaches that the compound decomposes to the underlying metal in the presence of the ultraviolet radiation of an appropriate wavelength and when the compound is at a certain temperature. Kelly (column 5, lines 37-39) further teaches that 25 the compound does not decompose at the certain temperature in the absence of the ultraviolet radiation. Thus, Kelly teaches that the temperature of the surface activation

compound is controlled separately from the ultraviolet radiation to which the compound is exposed. Furthermore, Kelly does not include a teaching that the ultraviolet radiation serves to selectively heat and increase the temperature of the surface activation compound.

5 Considering the foregoing, it should be understood that Kelly teaches that the temperature of the compound is controlled separately from the exposure of the compound to the ultraviolet radiation. Additionally, it should be acknowledged that Kelly is devoid of a teaching with regard to the ultraviolet radiation causing the compound material, or any other material for that matter, to be selectively heated. Therefore, with regard to
10 claims 23 and 31, the Applicants submit that the ultraviolet radiation source of Kelly does not teach a radiant energy source designed to generate radiant energy that will be selectively absorbed by a first material at the surface of a wafer, thereby causing a selective heating and increased temperature of the first material at a surface of the wafer.

To establish *prima facie* obviousness of a claimed invention, all the claim
15 limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Based at least on the foregoing discussion, the Applicants submit that the combination of Sandaiji and Kelly fails to teach each and every feature of claims 23 and 31, respectively, as required to support a rejection under 35 U.S.C. 103. Therefore, the Applicants submit that each of claims 23 and 31 is patentable over the
20 combination of Sandaiji and Kelly. The Office is kindly requested to withdraw the rejections of claims 23 and 31 under 35 U.S.C. 103.

Because a dependent claims incorporates each and every feature of its independent claim, the dependent claim is patentable for at least the same reasons as its independent claim. Therefore, the Applicants submit that each of dependent claims 25-28, 32-33, and
25 35-38 is patentable for at least the same reasons as its independent claim. The Office is

kindly requested to withdraw the rejections of claims 25-28, 32-33, and 35-38 under 35 U.S.C. 103.

Claims 29-30, 33, and 39-41 were rejected under 35 U.S.C. 103(a) as being 5 unpatentable over Sandaiji in view of Kelly, and further in view of Mayer et al. ("Mayer" hereafter) (U.S. Patent No. 6,713,122). These rejections are traversed.

Because a dependent claims incorporates each and every feature of its independent claim, the dependent claim is patentable for at least the same reasons as its independent claim. Therefore, the Applicants submit that each of dependent claims 29-30, 33, and 39-10 41 is patentable for at least the same reasons as its independent claim. The Office is kindly requested to withdraw the rejections of claims 29-30, 33, and 39-41 under 35 U.S.C. 103.

The Office is also requested to note that dependent claims 53-54 have been added. 15 The Applicants submit that each of dependent claims 53-54 is patentable over the cited art of record.

Response to Non-Statutory Double Patenting Rejection

Claims 23, 25-33, and 35-41 were provisionally rejected on the ground of non-20 statutory obviousness-type double patenting as being unpatentable over claims 1-9 and 21-27 of U.S. Patent Application No. 10/734,704. These rejections are traversed.

In the event that U.S. Patent Application No. 10/734,704, issues prior to the present application, and the provisional non-statutory obviousness-type double patenting rejection is made non-provisional, the Applicants will address the propriety of the 25 rejection with regard to the claims that issue forth from U.S. Patent Application No. 10/734,704.

The Applicants respectfully submit that all of the pending claims are in condition for allowance. Therefore, a Notice of Allowance is requested. If the Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to 5 contact the undersigned at (408) 774-6914. Also, if any additional fees are due in connection with filing this Amendment, the Commissioner is authorized to charge Deposit Account No. 50-0805 (Order No. LAM2P458). A duplicate copy of the transmittal is enclosed for this purpose.

10 Respectfully submitted,
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